

REMARKS/ARGUMENTS

Claims 1-23 are pending in the application and stand rejected.

Claims 13-20 and 22 are rejected under 35 USC 112.

Claims 1-5, 7, 21, and 23 are rejected under 35 USC 102 as being anticipated by United States Patent Application Publication 2003/0152076 to Lee et al. (hereinafter "Lee").

Claim 6 is rejected under 35 USC 103 as being unpatentable over Lee in view of what has been characterized as admitted prior art.

Claims 8-12 are rejected under 35 USC 103 as being unpatentable over Lee in view of United States Patent Application Publication 2001/0033583 to Dorsey et al. (hereinafter "Dorsey").

Claims 1, 21, and 23 are amended. New claim 24 is added. Support for the new and amended claims can be found throughout the application. For example, among other places, support can be found at pages 11-12 and with reference to Fig. 2. No new matter has been added.

An interview with Examiner Churnet was conducted on February 4, 2009. During the interview, support for claims 13-20 and 22 was identified in the application and the relevant portions of the disclosure were discussed. In addition, the Lee and Dorsey references were discussed and a proposed claim amendment was considered. While no agreement was reached concerning the proposed claim amendment, it is believed that the rejections under 35 U.S.C. 112 were addressed during the interview. Applicant wishes to thank Examiner Churnet for discussing the present application in the interest of advancing prosecution.

As discussed below, Applicant respectfully submits that the pending claims are not disclosed or rendered obvious by the cited references. As amended, claims 1, 21, and 23 recite that a portion of the encapsulating header is replaced with information from the encapsulated packet. The cited references do not disclose or suggest at least these features as claimed. With regard to claims 13, 17, and 22, it is respectfully submitted that none of the references discloses or even suggests combining a first data segment with a portion of a second

data segment in connection with modifying an encapsulating header of an encapsulated packet. Applicant respectfully requests reconsideration and allowance of the pending claims in view of the claim amendments and the following remarks.

Rejections under Section 112

A. Claims 13-20 and 22

Claims 13-20 and 22 are rejected under 35 U.S.C. 112 as not enabled in the specification based on use of “combining” in relation to data segments in a data pipeline. Claim 13, for example, recites “one of said pipeline stages coupled to another of said pipeline stages for combining, in said another pipeline stage, part of a data segment currently held in said one pipeline stage with a data segment currently held in said another pipeline stage.” (emphasis added). Claims 17 and 22 include similar limitations in which a first data segment is combined with a portion of a second data segment.

Applicant respectfully submits that combining part of one data segment with another data segment in a pipeline stage is fully supported in the specification. Fig. 2, for example, shows an exemplary data pipeline having stages $S_k \dots S_1$. As described at pages 9-10 of the application, stages S_1-S_{k-1} of the exemplary pipeline each has a width of $W + (N-1)$ bytes. As data moves through the pipeline, partial segments are combined in the pipeline stages. As one illustration, an example is given at page 10 in which “each of the stages S_1-S_{k-1} ...effectively holds $N-1$ redundant bytes which are simultaneously held in the $N-1$ lowest order bytes of the next adjacent upstream stage.” Fig. 2 illustrates that the partial data segment of $N-1$ bytes is combined with W bytes of another data segment in a pipeline stage having data width $J = W+(N-1)$ bytes.

Accordingly, Applicant submits that claims 13-20 and 22 are enabled by the specification as originally filed. Since claims 13-20 and 22 are not otherwise rejected in the Office Action, it is believed that they are in condition for allowance and action to that effect is respectfully requested.

Rejections under Section 102

B. Claims 1, 21, 23

Claim 1 recites an apparatus for processing an encapsulation packet including an encapsulating header and an encapsulated packet. The apparatus comprises a data pipeline and “a modifier coupled to said data pipeline for replacing a portion of said encapsulating header with first information contained in said encapsulated packet.” Lee does not disclose or suggest at least these elements as claimed.

In relevant part, Lee discusses that a strip-off operation can be performed on an information element according to a policy control instruction (PCI). See, Lee at [0187]. As discussed in the reference, the information element can be trimmed (popped) to remove information, or it can be padded (pushed) so that information can be inserted in an encapsulation operation. See, Lee at [0191].

Encapsulation is performed using encapsulation data 456 contained in the PCI. See, Fig. 13; See, Lee at [0193] (“the inputs to the strip-off and encapsulation engine are....(2) an encapsulation data 456, specified in the PCI, that is to be inserted within the information element segment”). Thus, according to Lee, the encapsulation data is fetched from a memory of the device and not taken from the information element itself. See, Lee at [0102] (“In the IRF stage 258, the PCI and PCS are fetched from memory using the PCI location address and the PCS location address.”).

Lee thus performs encapsulation by inserting information external to the information element. Lee does not disclose or suggest that second information is used to locate first information within an encapsulation packet for replacing a portion of an encapsulation header. In particular, Lee does not disclose or suggest at least “a modifier coupled to said data pipeline for replacing a portion of said encapsulating header with first information contained in said encapsulated packet.”

Claims 21 and 23 include similar limitations and are believed allowable over Lee for at least the reasons previously given. For example, claim 21 recites “replacing a portion of said encapsulating header with said second information.” Claim 23 recites “means for replacing

a portion of said encapsulating header with said second information.” As previously discussed, Lee does not disclose or suggest at least these elements as claimed.

C. Claims 2-7

Claims 2-7 depend from claim 1 and each incorporates all of the limitations as previously discussed. Accordingly, each of the dependent claims is believed allowable over Lee for at least the reason that it depends from an allowable base claim.

Rejections under Section 103

D. Claims 8-12

Claim 8 recites an apparatus for processing an encapsulation packet including an encapsulating header and an encapsulated packet. The apparatus comprises a data pipeline having “a plurality of pipeline stages, each said pipeline stage for holding therein successive ones of said data segments, at least one of said pipeline stages having a data width that is greater than said common data segment width for holding therein a portion of the encapsulation packet that is larger than said data segments.” The cited references do not disclose a data pipeline as claimed.

As noted in the Office Action, Lee fails to disclose that at least one of the pipeline stages has a data width that is greater than a common data segment width for holding therein a portion of the encapsulation packet that is larger than said data segments. See, Office Action at page 7. Instead, paragraph [0122] of Dorsey is cited as teaching the claimed element.

Dorsey discusses that instructions are read in a “pipelined fashion” to reduce delay from memory read latency. See, Dorsey at [0062]. According to Dorsey, a controller issues a read command to memory when an opcode is in the first stage of a three-stage pipeline so that the data will be available when the opcode reaches the third pipeline stage. See, Dorsey at [0067]. In the cited portion, Dorsey notes that the number of pipeline stages can be varied (e.g., 1 stage, 2 stages, 4 stages), but it does not disclose or even suggest that one of the pipeline stages has a data width greater than a common data segment width. See, Dorsey at [0122].

As understood by Applicant, there is no disclosure of the relationship between data widths of individual pipeline stages. In particular, in the cited passage, Dorsey does not disclose or suggest that at least one of the stages is wider than a common segment width. Accordingly, Applicant respectfully submits that neither Lee nor Dorsey discloses "at least one of said pipeline stages having a data width that is greater than said common data segment width for holding therein a portion of the encapsulation packet that is larger than said data segments" and therefore the combination does not disclose or fairly suggest each and every element as set forth in the claim.

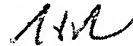
Claims 9-12 depend from claim 8 and each incorporates all of the limitations as previously discussed. Accordingly, each of the dependent claims is believed allowable over the combination of Lee and Dorsey for at least the reason that it depends from an allowable base. Reconsideration and allowance of all pending claims is respectfully requested.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,



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